

~~* Re-PRINT~~

Work Order ID 115599

115599

Page 1

May-29-14 12:59:03 PM

Item ID: D3488-042

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Blade Fitting RH

Stop

NS2

Start Date: 04/04/2014 Start Qty: 12.00

12

Cust Item ID:

Required Date: 04/04/2014 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr								
D3488	Rev B								
DSK 101	REV D								

100 0.00 DAS

100

DOOSAN LATHE

Doosan

Doosan Lathe

0.00

40

9-89

12 0

14/06/01

110 0.00 DAS

110

QC2- Inspect parts off machine FAI/FAIB

QC

Quality Control

0.00

40

9-89

12 0

14/06/01

Work Order ID 115599***115599***

Page 2

May-29-14 12:59:03 PM

Item ID: D3488-042

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Blade Fitting RH

Stop

NS2

Start Date: 04/04/2014 Start Qty: 12.00

12

Cust Item ID:

Required Date: 04/04/2014 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

0.00

DAS

120

HAAS CNC VERTICAL MACHINING #1

37

HAAS

Memo

0.00

9-89

HAAS CNC vertical machine #1

1-Machine as per Folio FA627 & Dwg D34882-Deburr

10 2

130

0.00

DAS

130

QC2- Inspect parts off machine FAI/FAIB

37

QC

Memo

0.00

9-89

Quality Control

10 2

140

0.00

DAS

140

QC8- Inspect parts - second check

14

QC

Memo

0.00

9-89

Quality Control

10 10/6/30

Work Order ID 115599

115599

Page 3

May-29-14 12:59:03 PM

Item ID:	D3488-042	Accept	*N900040100*	Setup	Start	*NS1*	
Revision ID:							
Item Name:	Blade Fitting RH				Stop	*NS2*	
Start Date:	04/04/2014	Start Qty:	12.00	*12*	Cust Item ID:		
Required Date:	04/04/2014	Req'd Qty:	12.00	*12*	Customer:		
Reference:							
Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:	Stop		*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 *150* Hand Finish Hand Finishing	Chemical Conversion Coat per QSI005 4.1	0.00							<i>P 76 47-3</i>
160 *160* Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum <i>M 128059</i>	0.00							<i>10 d 4-7-17 DAS 34 98</i>
170 *170* QC Quality Control	QC3- Inspect Part Finish	0.00							<i>10x d 4-7-17 DAS 15 9-89</i>

Work Order ID 115599***115599***

Page 4

May-29-14 12:59:03 PM

Item ID: D3488-042

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Blade Fitting RH

Stop

NS2

Start Date: 04/04/2014 Start Qty: 12.00

12

Cust Item ID:

Required Date: 04/04/2014 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 *180*	HandFinishing HandFinish	0.00							X10RH of 90 jobs
Hand Finishing	Memo	0.00							
	Install Inserts as per Dwg D3488								
190 *190*	QC5- Inspect part completeness to step on W/O QC	0.00							10 6/14-7-7 BL
Quality Control	Memo	0.00							
200 *200*	Identify as per dwg & Stock Location: F9-061 Packaging	0.00							X10RH of 90 jobs
Packaging	Memo	0.00							

Work Order ID 115599

115599

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May-29-14 12:59:03 PM

Item ID: D3488-042

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Blade Fitting RH

Stop

NS2

Start Date: 04/04/2014 Start Qty: 12.00

12

Cust Item ID:

Required Date: 04/04/2014 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

210

QC21- Final Inspection - Work Order Release

210

QC

Quality Control

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

0.00

Memo

0.00

MS 1407-08

AM-78

Picklist Print

Page 1

May-29-14 12:59:01 PM

Work Order ID: 115599

115599

Parent Item: D3488-042

D3488-042

Parent Item Name: Blade Fitting RH

Start Date: 04/04/2014

Required Date: 04/04/2014

Start Qty: 12.00

Required Qty: 12.00

Comments:
 IPP Rev:A New Issue 06-02-28 JLM
 IPP Rev:B As per Rev B 06-03-30 JLM
 IPP Rev:C Now On Doosan Lathe JLM Verified BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty/ Issued	Date Issued	Status
ALS7-1032-225	AELS8-1032-225	Purchased	No				Each	1,167.000		48 40	✓		

AI S7-1032-225

Insert

Aks4-1032-225

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	80	
118520	80	
FP001	1000	
m128649	1000	✓40
ST280	87	
m128179	87	

D6103-003

Manufactured No

Each 48.0000

12

**

D6103-003

Round Billet, Aluminum

DAS

40

9-89

14/05/31

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
MAT043	48	
113281	8	8
113646	12	
115942	8	4
116860	20	

DART AEROSPACE LTD	Work Order:	
Description: Blade Fitting, RH / Turning Detail for D3488-1/-2	Part Number:	D3488-2
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

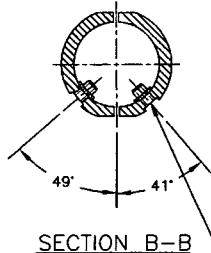
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
Ø2.150	+/-0.005	2.147	✓		VGMic	PHD-04
Ø2.780	+/-0.005	2.779	✓		"	"
Ø3.125	+/-0.010	3.123	✓		"	GA-10
Ø3.346	+/-0.010	3.346	✓		"	"
0.125 x 45°	+/-0.010 x +/-0.1°	.175	✓		VGM	PHD-12
8.000	+0.030/-0.000	8.014	✓		"	CNC-02
9.250	+/-0.010	9.250	✓		"	"
0.188	+/-0.010	.187	✓		"	PHD-12
R0.032	+/-0.010	.032	✓		Rad G	
R0.062	+/-0.010	.062	✓		"	
Ø0.297	+0.005/-0.001	.299	✓		PIN G	
Ø0.430	+/-0.010	.433	✓		"	
0.100	+/-0.010	.098	✓		VGM	PHD-12
0.125	+/-0.010	.131	✓		"	"
2.620	+/-0.010	2.620	✓		Mic	PHD-04
3.500	+/-0.010	3.500	✓		VGM	PHD-12
1.005	+/-0.010	1.005	✓		H. G.	31006
Ø0.484	+0.005/-0.001	.485	✓		PIN G	
1.180	+/-0.010	1.180	✓		VGM	PHD-12
3.150	+/-0.010	3.148	✓		"	"
3.070	+/-0.010	3.069	✓		"	"
R0.063	+/-0.010	.062	✓		Rad G	

DART AEROSPACE LTD		Work Order:	
Description: Blade Fitting, RH / Turning Detail for D3488-1/-2		Part Number:	D3488-2
Inspection Dwg: D3488 / DSK101	Rev: B / D		Page 2 of 2

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Milling Section						
Ø0.508	+0.006/-0.001	.509	✓		P.W. Gage	
0.750	+/-0.010	.749	✓		DR 18	8" vern
1.500	+/-0.010	1.499	✓			
11.18	+/-0.030	11.182	✓			
R0.062	+/-0.010	R.062	✓			
0.125	+/-0.010	.123	✓			
0.590	+/-0.010	.588	✓			
0.793	+/-0.010	.790	✓			
1.351	+/-0.010	1.346	✓		HGT Gage	
1.317	+/-0.010	1.318	✓		DR 01	0-1 mic
1.802	+/-0.010	1.800	✓		HGT Gage	

Measured by:	DAS	DAS	Audited by:	DAS	Prototype Approval:	N/A
	40 9-89	37 9-89		14 9-89		
Date:	14/06/01	14.06.24	Date:	14/06/30	Date:	N/A

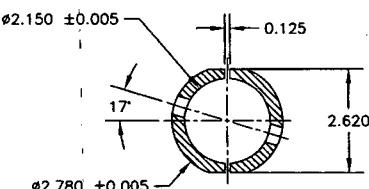
Rev	Date	Change	Revised by	Approved
A	06.03.31	New Issue	KJ/JLM	
B	08.09.19	Reformat P/O D3488-042	KJ/JLM	
C	08.12.02	Dimension 8.000 removed	KJ/JLM	



SECTION B-B

C'BORE $\phi 0.430 \times 0.100$
INSTALL ALS4-1032-225 (OR AKS4-1032-225)
OR ALS7-1032-225 OR AKS7-1032-225)
INSERTS AFTER FINISH
(4 PLACES)

4



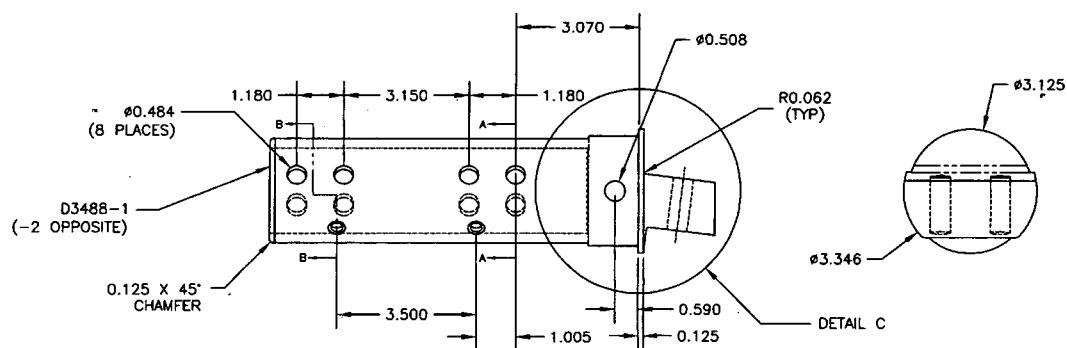
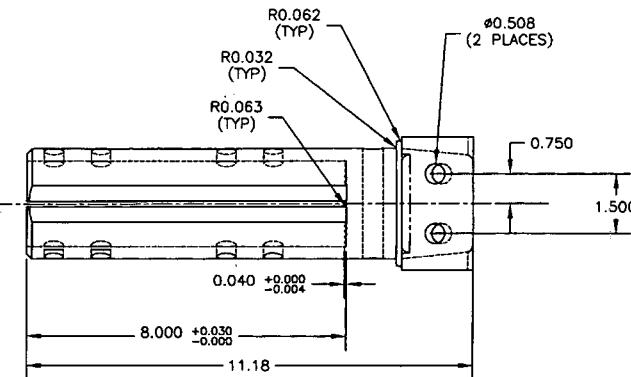
SECTION A-A

D3488-041/-042 BLADE FITTING ASSEMBLY PARTS LIST

QTY	QTY	PART NUMBER	DESCRIPTION
1	1	D3488-041	BLADE FITTING ASSEMBLY (LH)
	1	D3488-042	BLADE FITTING ASSEMBLY (RH)
1	1	D3488-1	BLADE FITTING (LH)
	1	D3488-2	BLADE FITTING (RH)
4	4	ALS4-1032-225 or AKS4-1032-225 or ALS7-1032-225 or AKS7-1032-225	INSERT

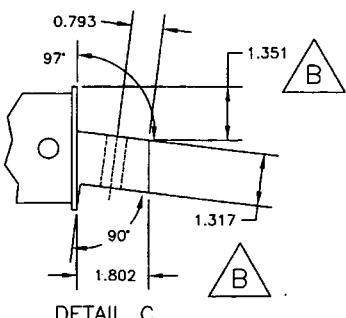
D3488-041/-042 BLADE FITTING

- 1) MATERIAL: MAKE D3488-1/-2 FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9 (REF. DART MATERIAL SPEC M7075T73R)
- 2) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- 4) INSTALL INSERTS AFTER POWDER COAT
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



RELEASED
04-05-07 PH
RCR 05
ECL #784

D3488-041 SHOWN (D3488-042 OPPOSITE)



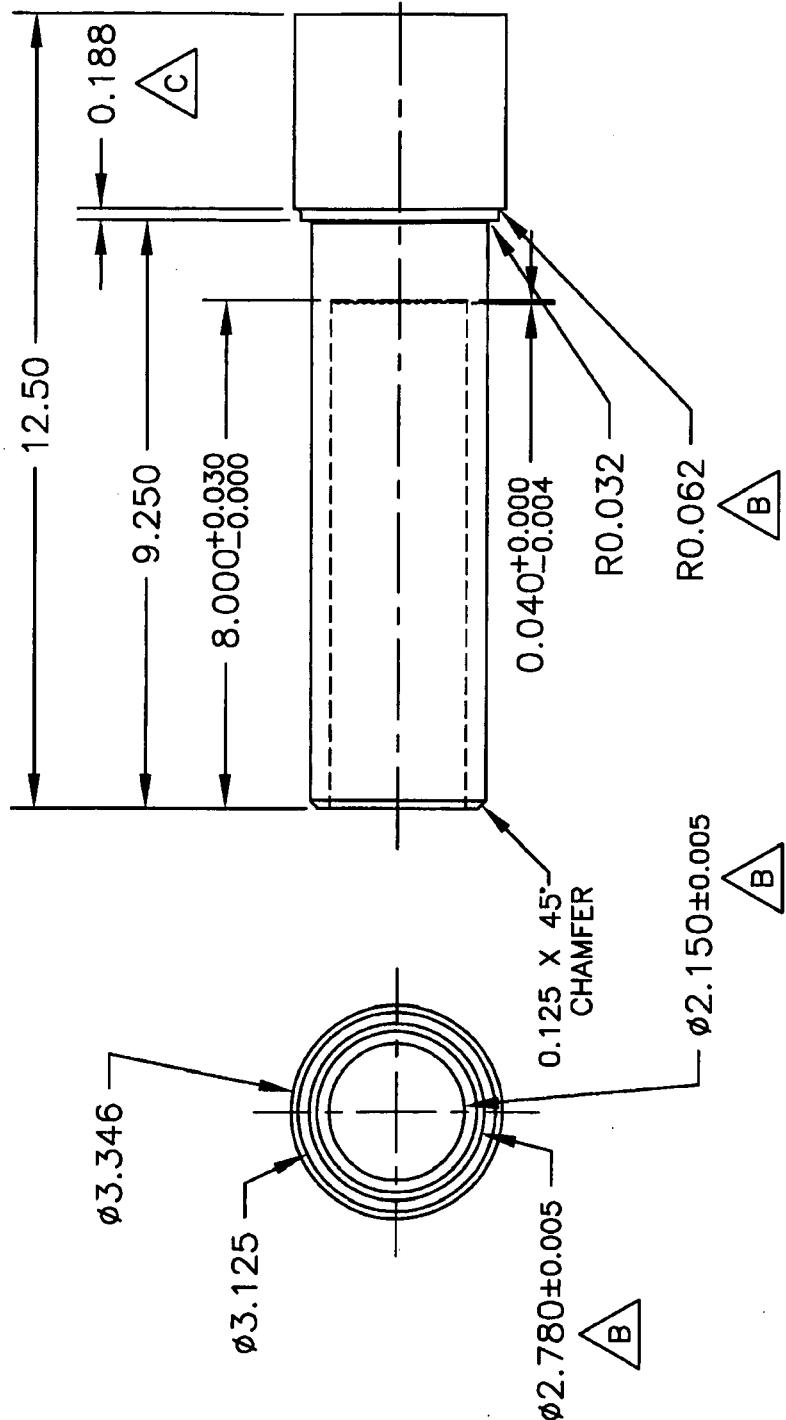
DETAIL C

B	06.03.15	CHANGE THICKNESS
A	05.12.20	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	PH	APPROVED PH
DATE		DRAWING NO. D3488
06.03.15		REV. B
		SHEET 1 OF 1
		SCALE
		1:13

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DART AEROSPACE USA, INC.

DART

DESIGN <i>PH</i>	DRAWN BY <i>PH</i>	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED <i>PH</i>	APPROVED <i>PH</i>	DRAWING NO. DSK 101	REV. D SHEET 1 OF 1
DATE 06.05.09		TITLE D3488-1/-2 TURNING DETAIL	SCALE 1:3
A	05.12.21	NEW ISSUE	
B	06.03.02	ADD TOLERANCES AND RADIUS	
C	06.04.17	0.188 WAS 0.125	
D	06.05.09	REMOVE DIAMETER FOR CHAMFER	

DSK 101

- 1) MATERIAL: MAKE FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9
(REF. DART MATERIAL SPEC M7075T73R)
NONE
- 2) FINISH: BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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DQA: _____

Date: _____

QA Closed: _____

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

Work Order: 115599
 Part No. 3488-042
 NCR No. _____

DISPOSITION

Rework
 Scrap
 Use-as-is
 Suspected Unapproved

AGAINST DEPARTMENT/PROCESS

Skid-tube
 Machining
 Thermoforming
 Large Fab

Crosstube
 Small Fab
 Finishing
 Composite

Water Jet
 Prod. Eng. Coor.
 Rec/Store/Packaging
 Supplier

Engineering
 Quality
 Other

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	14-06-25	120	1	I PUT TUBE IN WRONG WAY INTO THE FIXTURE. POSITIONED WRONG. RE OPERATOR.	DAS 16 9-89 052492 14/06/25	Scrap & Destroy. No Reins.	14-06-24 DAS 37 9-89	14/06/30	DAS 16 9-89
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General									
Bending	<input type="checkbox"/>	Bend	<input type="checkbox"/>	Folio/Program	<input type="checkbox"/>	Outside Dimensions	<input type="checkbox"/>	Pressure/Forced	<input type="checkbox"/>	
Centre Not Concentric	<input type="checkbox"/>	BOM/Route	<input type="checkbox"/>	Grain	<input type="checkbox"/>	Over/Under tolerance	<input type="checkbox"/>	Set-up	<input type="checkbox"/>	
Cracks	<input type="checkbox"/>	Broken/Damage/Defect	<input type="checkbox"/>	Hardware	<input type="checkbox"/>	Part Incorrect	<input type="checkbox"/>	Temperature/Cure	<input type="checkbox"/>	
Crimp/Kink/Ripple/Wave	<input type="checkbox"/>	Burrs	<input type="checkbox"/>	Inspection Incomplete/Unqualified	<input type="checkbox"/>	Part Lost/Missing	<input type="checkbox"/>	Weld	<input type="checkbox"/>	
Cuffs	<input type="checkbox"/>	Contamination	<input type="checkbox"/>	Instructions Incomplete/Unclear	<input type="checkbox"/>	Part Moved	<input type="checkbox"/>	Wrong Stock Pulled	<input type="checkbox"/>	
Crushing	<input type="checkbox"/>	Countersink	<input type="checkbox"/>	Misaligned/off center	<input checked="" type="checkbox"/>	Positioned Wrong	<input type="checkbox"/>	Other	<input type="checkbox"/>	
Heat Treat	<input type="checkbox"/>	Cut Too Short	<input type="checkbox"/>	Mislabeled	<input type="checkbox"/>	Power Loss/Surge	<input type="checkbox"/>		<input type="checkbox"/>	
Inspection Strip in Tube	<input type="checkbox"/>	Drawing	<input type="checkbox"/>	Misread	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Marks/Chatter	<input type="checkbox"/>	Drill Holes	<input type="checkbox"/>	Off-set	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Turning Sequence	<input type="checkbox"/>	Finish	<input type="checkbox"/>	Out of Calibration	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Wave/Twist in Tube	<input type="checkbox"/>	Fit/Function	<input type="checkbox"/>	Out of Sequence	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	